

CLAIMS:

1. An integrated circuit comprising:
a plurality of substantially identical interconnected building blocks laid out in a regular grid, each building block comprising:
a logic cell;
5 first routing means coupled to the logic cell for data communication between the logic cell and a first further logic cell on the grid in a first direction; and
second routing means coupled to the logic cell for data communication between the logic cell and a second further logic cell on the grid in a second direction, and
switch means for coupling the first routing means to the second routing means;
10 characterized in that:
a first subset of the plurality of building blocks have their respective first routing means form a part of a routing network surrounding the grid;
a second subset of the plurality of building have their second routing means form a further part of a routing network surrounding the grid; and
15 the integrated circuit further comprises a plurality of routing cells being coupled to the part and the further part of the routing network for completing the routing network surrounding the grid.
2. An integrated circuit as claimed in claim 1, characterized in that the plurality
20 of routing cells comprises a switch cell for coupling a subset of the plurality of routing cells to one of the first subset and second subset of the plurality of building blocks.
3. An integrated circuit as claimed in claim 1, characterized in that each routing
25 cell from the plurality of routing cells is arranged to connect at least a neighboring logic cell in the grid to off-grid hardware.
4. An integrated circuit as claimed in any of the claims 1-3, characterized by further comprising a plurality of interconnect cells being arranged to connect the building

blocks from the first subset and the second subset to off-grid hardware.

5. An integrated circuit as claimed in claim 1, characterized in that the switch means comprise a plurality of programmable switches.

5 6. An integrated circuit as claimed in claim 1, characterized in that:
the building blocks have a substantially rectangular shape; and
the plurality of routing cells comprises:
a first subset of routing cells for integrating a third subset of the plurality of
10 building blocks into the routing network via a first side of the rectangular shape; and
a second subset of routing cells for integrating a fourth subset of the plurality
of building blocks into the routing network via a second side of the rectangular shape, the
first side being different in length to the second side.

15 7. An electronic device, comprising:
data communication means;
a data storage element coupled to the data communication means for storing
data;
a processing element coupled to the data communication means for processing
20 of data by execution of a dedicated task; and
an integrated circuit as claimed in claim 1 for further processing of data by
execution of a task from a plurality of tasks, the task being selectable by means of
configuring the integrated circuit, the integrated circuit being coupled to the data
communication means.

25 8. A method of designing an integrated circuit, comprising:
designing a plurality of substantially identical interconnected building blocks,
each building block comprising:
a logic cell;
30 first routing means coupled to the logic cell for data communication between
the logic cell and a first further logic cell on the grid in a first direction; and
second routing means coupled to the logic cell for data communication
between the logic cell and a second further logic cell on the grid in a second direction, and
switch means for coupling the first routing means to the second routing means;

laying out the plurality of building blocks in a regular grid;
characterized in that the method further comprises the step of:
designing a routing network surrounding the grid by including:
a first subset of the plurality of building blocks that have their respective first
5 routing means form a part of the routing network;
a second subset of the plurality of building blocks that have their second
routing means form a further part of a routing network; and
a plurality of routing cells coupled to the part and further part of the routing
network for completing the routing network surrounding the grid.

10

9. A method as claimed in claim 8, characterized by further comprising the step
of adding interconnect means for connecting a plurality of building blocks on an edge of the
grid with off-grid hardware.